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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/694,186	10/28/2003	Tsuneo Kimura	0171-1033P	2751

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EXAMINER
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ROBERTSON, JEFFREY

ART UNIT	PAPER NUMBER
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1712

DATE MAILED: 06/01/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/694,186

Applicant(s)

KIMURA, TSUNEO

Examiner

Jeffrey B. Robertson

Art Unit

1712

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 28 October 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 1003.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kimura et al. (U.S. Patent No. 5,733,995) in view of Yanagisawa et al. (U.S. Patent No. 5,231,207) and Arai et al. (U.S. Patent No. 5,286,766).

For claim 1, in column 1, line 65 through column 2, line 25, Kimura teaches an organopolysiloxane composition. In column 4, lines 62-65, Kimura teaches that the composition is a room temperature curing composition. In column 2, lines 30-62, Kimura teaches an organopolysiloxane (general formula (3)) corresponding to formula (1) of applicant's component (A). In column 2, lines 52-57, Kimura specifies that the degree of polymerization is integer of 10 or more, and for claim 16, the viscosity ranges from 25 to 1,000,000 cSt, which includes 700 cSt. In column 2, line 64 through column 3, line 36, Kimura discloses a silane compound that corresponds to applicant's compound (B). For claim 6, Kimura teaches that a preferable example is methyltributoximesilane. Note that in Kimura's formula (1),  $n=3$  or  $4$ , which means that there are at least two hydrolyzable radicals present in the silane. Kimura teaches that the amount of the silane present in the composition is 3-20 parts by weight based on 100 parts by weight of the corresponding component (A). This range is encompassed

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by the range taught for this component in claim 1. In column 3, line 38 through column 4, line 5, Kimura teaches the addition of an amino group containing hydrolyzable silane in an amount of 0.1 to 5 parts by weight. This falls completely within the range claimed by applicant in claim 1. In Example 1, column 5, lines 9-20, Kimura teaches (N- $\beta$ -aminoethyl)- $\gamma$ -aminopropyltrimethoxysilane for this component.

For claims 7 and 8, Kimura teaches in column 4, lines 36-54, that fillers may be added, including silica.

Kimura fails to teach the specific organosilicon compound (C) set forth by applicant containing an aromatic ring-bearing hydrocarbon radical and that the organopolysiloxane (A) is an alkoxy-terminated polysiloxane.

For component (A), Arai teaches a polysiloxane composition in column 2, lines 8-49. This composition is similar to the composition taught by Kimura in that it contains a base polysiloxane, at least two different silanes including a silane containing hydrolyzable groups, fillers, and a condensation catalyst. In column 6, lines 47-49, Arai teaches the presence of adhesion promoting silanes. In column 2, line 56 through column 3, line 53, Arai teaches that the diorganopolysiloxane is substantially linear, and has alkoxy radicals at the chain ends. This falls within applicant's formula (2). Note that here Arai teaches many R groups that fall within applicant's definition of R<sup>1</sup>, such as methyl, ethyl, and phenyl. Inoue teaches in column 7, lines 40-45, that the RTV composition is effective as an adhesive, coating or the like.

Yanagisawa teaches in column 1, line 56 through column 2, line 2, silane compounds that fall within the definition of the compounds set forth by applicant as

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compound (C). Yanagisawa specifically sets forth the limitation that the aromatic group  $R^3$  in formula (I) corresponds to applicant's  $R^4$  in formula (3). This group is limited to an aromatic containing group containing 7-10 carbon atoms where at least one of the amino groups is not bonded directly to the aromatic ring. In column 2, line 58 through column 3 line 16, Yanagisawa sets forth several compounds that fulfill the requirements of claims 11, 12, and 16 such as  $(MeO)_3Si-(CH_2)_3-NH-CH_2-Pn-CH_2NH_2$ , where Pn is a phenylene group. Here applicant's  $R^2$  is methyl and  $R^3$  is propylene. For claim 5,  $R^4$  corresponds to applicant's structure (4) of the claim.

Kimura and Yanagisawa are analogous art in that they both teach amino-silanes agents in sealing compositions. Arai is analogous art in that it teaches silane adhesion promoters in room-temperature curing compositions.

It would have been obvious to one of ordinary skill in the art at the time of the invention to substitute the hydroxy-terminated polysiloxanes of Kimura with the alkoxy-terminated polysiloxanes of Arai. The motivation would have been that Arai teaches in column 1, lines 14-53, that the silanol-terminated polysiloxanes cause problems in the shelf life of the compositions, and that this problem can be overcome through the use of alkoxy-terminated polysiloxanes. Therefore one of ordinary skill in the art would have substituted the alkoxy-terminated polysiloxanes to improve the shelf life of the compositions.

It would have been obvious to one of ordinary skill in the art at the time of the invention to substitute the aminosilane compounds of Yanagisawa into the compositions of Kimura. The motivation would have been that in column 4, lines 25-41, Yanagisawa

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teaches that the aminosilanes of the patent are useful as silane coupling agents.

Yanagisawa teaches that these silane compounds are an improvement over the prior art agents because they improve thermal stability and moisture resistance. Yanagisawa specifically mentions that the aminosilane compounds of his invention are an improvement over (N- $\beta$ -aminoethyl)- $\gamma$ -aminopropyltrimethoxysilane, the compound preferred by Kimura in the examples of the Kimura patent. Since the Kimura compositions are specifically used for automotive oil seals, one of ordinary skill in the art would have desired an improvement in thermal stability and moisture resistance, and substituted the compounds of Yanagisawa in the compositions of Kimura for this purpose.

For claims 1 and 2, although it is noted that Kimura is directed to oil seals, the examiner's position is that due to the broad definition in claim 1 of "architectural part or electric or electronic part", the examiner's position is that the use of the compositions for adherence of engine blocks falls within applicant's broad definition in the claims.

Alternatively, Arai teaches that such RTV compositions are used in the electric and electronic industry in col. 7, lines 40-42. Therefore, one of ordinary skill in the art would have been motivated to use the improved compositions of Kimura in these fields as well.

3. Claims 1-8 Araki et al. (U.S. Patent No. 6,573,356) in view of Yanagisawa et al. (U.S. Patent No. 5,231,207).

Applicant cannot rely upon the foreign priority papers to overcome this rejection because a translation of said papers has not been made of record in accordance with 37 CFR 1.55. See MPEP § 201.15.

For claims 1-3, Araki teaches that RTV compositions are used for bonding building or electronic parts. Col. 1, lines 1-18. Although Araki does not expressly teach that the parts are made of glass or coated steel, it would have been obvious to one of ordinary skill in the art to use these materials as they are common materials in these fields of endeavor. Araki teaches that the composition comprises 100 parts by weight of an alkoxy-terminated polysiloxane, 0.1-30 parts by weight of a silane compound having hydrolyzable groups, and 0.1 to 10 parts by weight of a silane compound containing amino groups. Although Araki teaches that the amino silanes are partial-hydrolysis condensation products, the examiner's position is that applicant's definition in the claims is broad enough to encompass the condensation products of the silanes set forth therein. Araki teaches that the viscosity of the polysiloxane is in the range of 500-100,000 cSt, which includes 700 cSt. Araki teaches ketoxime containing silanes in col. 3, lines 5-10 including methyltris(methylisobutylketoxime)silane. Araki teaches (N- $\beta$ -aminoethyl)- $\gamma$ -aminopropyltrimethoxysilane as the silane in col. 3, lines 64-65. For claims 7 and 8, Araki teaches filler such as silica may be added in col. 4, lines 25-29. Araki fails to teach that the aminosilanes have an aromatic group.

Yanagisawa teaches in column 1, line 56 through column 2, line 2, silane compounds that fall within the definition of the compounds set forth by applicant as compound (C). Yanagisawa specifically sets forth the limitation that the aromatic group  $R^3$  in formula (I) corresponds to applicant's  $R^4$  in formula (3). This group is limited to an aromatic containing group containing 7-10 carbon atoms where at least one of the amino groups is not bonded directly to the aromatic ring. In column 2, line 58 through column 3 line 16, Yanagisawa sets forth several compounds that fulfill the requirements of claims 1 and 4-6 such as  $(MeO)_3Si-(CH_2)_3-NH-Pn-CH_2NH_2$ , where Pn is a phenylene group. Here applicant's  $R^2$  is methyl and  $R^3$  is propylene. For claim 5,  $R^4$  corresponds to applicant's structure (4) of the claim.

Araki and Yanagisawa are analogous art in that they both teach amino-silanes agents in sealing compositions.

It would have been obvious to one of ordinary skill in the art at the time of the invention to substitute the aminosilane compounds of Yanagisawa into the compositions of Araki. The motivation would have been that in column 4, lines 25-41, Yanagisawa teaches that the aminosilanes of the patent are useful as silane coupling agents. Yanagisawa teaches that these silane compounds are an improvement over the prior art agents because they improve thermal stability and moisture resistance. Yanagisawa specifically mentions that the aminosilane compounds of his invention are an improvement over (N- $\beta$ -aminoethyl)- $\gamma$ -aminopropyltrimethoxysilane, a compound taught by Araki. Since the Araki compositions are specifically used for electronic parts and construction materials, one of ordinary skill in the art would have desired an



improvement in thermal stability and moisture resistance, and substituted the compounds of Yanagisawa in the compositions of Araki for this purpose.

**Conclusion**


4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Ahmed et al. (U.S. Patent No. 6,833,407) is cited for general interest.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeffrey B. Robertson whose telephone number is (571) 272-1092. The examiner can normally be reached on Mon-Fri 7:00-3:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Randy P. Gulakowski can be reached on (571) 272-1302. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JBR

  
Jeffrey B. Robertson  
Primary Examiner  
Art Unit 1712